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□ ONLINE DATABASES □

BY CAROL TENOPIR

Eight Tips for Cost-Effective Searching

WHO BETTER TO ask about cost-effective searching than librarians who are online every day? At an audience-participation session at the Special Libraries Association (SLA) Conference in San Francisco this June more than 100 corporate, academic, and public librarians gathered to share their tips for saving money while still doing top-notch online searches.

"Cost Saving Tips Online" was led by Carole Schildhauer, assistant engineering librarian at MIT. For the 1989 DIALOG Update, she developed "The Ten Commandments of Quick and Dirty Online Searching." Her tips are still relevant today.

Everyone in the SLA audience indicated they use DIALOG, but almost everyone uses other systems in addition, including LEXIS/NEXIS, BRS, Westlaw, STN International, ORBIT, and many others. Some of these tips from the audience are specific to one system, others more generally apply.

Tip 1: Move up to 9600 bps searching
Nodes for 9600 are now available and will continue to become available. If there is a 9600 bps node available in your area, use it! The additional cost of a 9600 bps modem will quickly be made up in reduced search costs. For example, one searcher estimated the switch from 2400 to 9600 bps resulted in a 20-30 percent reduction in his organization's search costs.

Many searchers have a 9600 bps connection to Internet via their university or company computer system. You may be using Internet regularly for E-mail or for connecting to other library collections. Some commercial online services may now be accessed over Internet as well, including OCLC, EPIC, and DIALOG. Regular host system online connect-time and record typing charges apply, but costs

The Ten Commandments of Quick and Dirty Online Searching [on DIALOG]

By Carole Schildhauer, MIT

1. Understand the question! Find out what people really want—ask them to write it down.
2. Memorize the DIALOG Blue Sheets for Five Top Databases.
3. The great "S" vs. "SS" controversy. [DIALOG's S command saves time (and therefore money), but only if you do not need to modify your search statement. The SS builds a set for every term in a search statement, making modifications quick and easy. The single select command on DIALOG creates just one set for each search statement. DIALOG now encourages the single S because it uses less computing power and may have faster response time, but SS sometimes provides more cost-effective searching because it allows searchers to more easily modify their searches.]
4. Author searching: the big comma issue. Remember to enter SMITH, W? OR SMITH W? because databases are inconsistent. For a long, unusual name, truncate immediately after the last name—e.g., SCHILDHAUER.
5. Too many hits: limit results to TI, ID, DE.
6. Do not assume that library users speak Boolean and that they know the difference between OR and AND in that context.
7. Synonyms: use all, some, none, depending on the recall that is needed.
8. Don't forget DIALINDEX.
9. Weird words are wonderful! [Words such as "Brazil nuts" searched in the INSPEC database will retrieve weird false drops.]
10. Know thyself! Find your own search style.

are reduced because of increased speed and the reduction in telecommunications network fees. More systems are bound to be offering access over Internet.

Faster searching necessitates changes in search strategy. The eye can't keep up with material scrolling past at 9600 bps, so trying to read online negates the benefits from the additional speed. A good method recommended by one experienced searcher is

to download titles in the search set, log off, look at and evaluate the titles offline, then relog on to download desired citations or to modify strategy.

Tip 2: Use "free" Internet databases
If your institution has an Internet account, the cost is probably not passed on to you. Although it is not "free" to your institution, in practice it is to the users. Hundreds of library catalogs and periodical databases such as CARL's UnCover that is created by participating librarians can be accessed over Internet without any further charges.

The SLA participants debated the quality of the UnCover database compared to commercial databases on major online systems. There were comments that the coverage of some journals is inconsistent, the journals included are mostly inappropriate for research users, records are short with inadequate subject access, and the search techniques available on CARL are primitive. Most agreed, however, that it is a good starting place for many topics and is appropriate for simple topics that do not require complex search strategies or comprehensive results. UnCover II also provides FAXed document delivery at a reasonable price.

Tip 3: Explore other online systems
Commercial online systems are in competition. They may offer many of the same databases, but at very different prices. One searcher, for example, noted that ERIC and BIOSIS are much cheaper on OCLC's EPIC than on DIALOG. The trade-off, of course, is that she had to spend the time to learn a new system to be able to take advantage of the reduced cost. If a searcher is not comfortable with a system, it may be less expensive in the long run to search on a slightly more expensive, but familiar, system.

Data-Star, the Swiss system, was mentioned as a good bargain for U.S. searchers because connect time is discounted 20 percent during off-peak hours in Switzerland. That translates to afternoon on the East Coast and most of the working day in the West. The search language is much the same



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ONLINE DATABASES

as BRS (originally based on IBM Stairs) so it will be familiar to many searchers. (Response time will be better during off-peak times no matter which system you are using. Therefore, connect costs will be lower.)

Tip 4: Upload and download

If you are still searching as if you are using a dumb terminal, now is the time to change; use the power of the microcomputer terminal and software to make the best use of host connect time. Inputting complex searches before you go online makes up for poor typing skills and forces you to think out your strategy. When you go online the pre-input search can be uploaded at a much faster speed than you can type, so you can spend more time online modifying as needed.

Interim search results, such as titles, can be downloaded and reviewed offline, and final results should be downloaded for later printing as well. If you are requesting offline prints from DIALOG, have them put them in your DIALMAIL mailbox. The electronic prints will be available to you on the next day.

Many searchers praised DIALOG's DIALOGLINK software for ease in both uploading and downloading. Searchers use it not just for DIALOG searching, but for searching BRS, ORBIT, Data-Star, STN International, and others. Almost all telecommunications software packages have uploading and downloading capabilities—some are just easier than others.

Tip 5: Use multifile search features

With so many databases available online, it is the rare search that should be done in only one database. Cutting out good databases is not cost-effective searching, just less costly and perhaps poorer searching. Features such as DIALOG's Onesearch let many databases be searched at a much lower cost than searching several databases sequentially. Even with Onesearch, there are ways to reduce costs further.

One searcher recommended that in a Onesearch Begin statement you should always list the database with the cheapest TYPE charges first. When you remove duplicates with the RD command, the more costly duplicates will be removed because the databases listed first are considered top priority. (This assumes that the quality and completeness of the records in each database are equal. In some cases, it may be worth a bit more to have higher

quality records retained.)

Because Onesearch divides waiting time equally among all databases in the Onesearch list, one librarian recommended always putting a cheap file in the Onesearch list to reduce overall costs. For example, she puts in an Ontap (Online Training and Practice) file when she is searching an expensive patent file, so part of the connect cost and rounding up goes to the \$15 per hour file rather than all to the one costing \$200 per hour. The results from Ontap are meaningless and are discarded, but the overall cost is less than searching the patent file alone.

DIALOG now allows sorting with Onesearch, so results from all the Onesearch databases can be sorted together by any criteria applicable to all of the databases in your Onesearch list. One searcher saw a cost savings when she sorted Onesearch results by publication year and printed just the first half (or so) of her results rather than limiting by publication date. She found sorting to be faster than searching by date.

Multiple file searching impacts on search strategy. Different databases may have different descriptors (or none at all), different authority files (or none at all), different field structure and field tags, or different amounts of information in each record. Be careful about mixing bibliographic and full-text databases in Onesearch or you may have too many false drops in the full text and too few retrievals in the bibliographic.

More free-text searching and less reliance on descriptors is necessary, but the SLA librarians couldn't agree whether that was a positive or a negative trend. A free-text strategy that ORs together equivalent synonyms from each database's descriptor list (for example, MEDLINE and EMBASE) was recommended.

Tip 6: EXPAND, ROOT, NEIGHBOR

When in doubt about how a phrase or name is entered in a database, EXPAND in DIALOG (or ROOT in BRS, NEIGHBOR in ORBIT, etc.). The EXPAND command and equivalents allow you to see the values entered in each file's dictionary file. Few databases have authority control for fields such as author, company name, or corporate source so expanding is the only way to find all the variations that may occur. Even though you are paying connect time to expand, the searchers at SLA agreed that it saves

money in the long run.

If an author has a common name (e.g., John Smith), even expanding may not pick out just the one you want. To save time and money, AND your John Smith's affiliation or state or even a relevant subject word to the author search.

Tip 7: Use DIALINDEX & equivalents

DIALOG now has over 400 databases online. At one time, searchers could memorize contents and features of all online databases. No longer. Several participants at SLA stressed the importance of taking advantage of system features that help you choose the databases with the most information on your topic.

DIALOG's DIALINDEX (and equivalents on other systems, such as BRS CROSS) lets you peek into the dictionary files of all databases at a lower connect cost. The new Rank Files feature on DIALOG puts the DIALINDEX results into order by file, so you have an ordered list of the top databases on the topic. You can then log off, develop an appropriate search strategy, and log back on to the selected files. A librarian from 3M said DIALINDEX is the most heavily used database in her company.

Tip 8: Take advantage of free and low-cost features

Every online system has some bargains. Perhaps most helpful is the toll-free telephone help line (searchers at SLA informally rated LEXIS/NEXIS as the best 800-number service). System personnel can help you develop search strategies for a database you've never searched before, troubleshoot an unsatisfactory search, or suggest alternative databases. (One person praised EasyNet's SOS service, where a librarian will help you online at any time in a search when you type in "SOS." Other services require a separate phone call.)

Other bargains include free (or reduced price) "files of the month," free newsletters and sometimes documentation from database producers, and low-cost training files.

Everyone is looking to keep costs down without giving up on quality or service. Sometimes simple things can reduce your online costs significantly. Online prices of the major commercial systems continue to go up; professional searchers have to be clever as well as competent to be good, cost-effective searchers.